

Appl. No. 09/734,752  
Amdt. Dated January 26, 2004  
Preliminary Amendment

Amendments to the claims:

This listing of claims will replace all prior versions, and listings, of claims in the application:

Listing of claims

Claim 1 (canceled)

Claim 2 (currently amended): A method for diagnosing disease in a female subject using an experimental sample derived from said subject comprising:

selecting reference samples of known disease state that are matched to said experimental sample in reproductive state wherein the reproductive state of the individual is determined by determining ~~at least one of the following parameters:~~

the menstrual state of the individual;

~~if the individual is post-partum;~~

~~if the individual is or has ever been pregnant;~~

~~if the individual is or has ever lactated;~~

~~if the individual is nulliparous;~~

comparing the expression profile of said experimental sample to the expression profiles of said reference samples to identify the reference sample that matches said experimental sample in gene expression; and

diagnosing the experimental sample with the disease of the matching reference sample.

Claim 3 (canceled)

Claim 4 (currently amended): A method to diagnose physiological disorders in a female comprising:

comparing a gene expression profile from an experimental sample to a gene expression profile that represents an average of a plurality of reference samples wherein all of the reference samples in the plurality are from individuals of matched ~~share at least one indicator of reproductive status in common, wherein indicators of reproductive status~~

Appl. No. 09/734,752  
Amdt. Dated January 26, 2004  
Preliminary Amendment

~~are selected from the group consisting of menstrual state, post-partum state, pregnancy state, lactation state and nulliparity state, and wherein each of the reference samples in the plurality have has been diagnosed with the same physiological disorder and wherein the experimental sample is from an individual whose menstrual state is matched to the menstrual state of the reference samples also shares the at least one indicator of reproductive status; and~~

diagnosing the experimental sample with the physiological disorder if the gene expression profile of the experimental sample is similar to the gene expression profile that represents an average of a plurality of reference samples.

Claim 5 (currently amended): A method to identify the reproductive status of a sample derived from a female comprising:  
generating an expression profile from the experimental sample, and comparing said expression profile from the experimental sample to a plurality of expression profiles from samples of known reproductive status, wherein the reproductive state of the individual is determined by determining ~~at least one of the following parameters:~~

- the menstrual state of the individual;
- ~~if the individual is post-partum;~~
- ~~if the individual is or has ever been pregnant;~~
- ~~if the individual is or has ever lactated;~~
- ~~if the individual is nulliparous; and~~

identifying said reproductive status of said sample of unknown origin by identifying an expression profile of determined reproductive status that is similar to the expression profile from the experimental sample.

Claim 6 (currently amended): A method to identify markers of different reproductive states in women comprising:  
obtaining a first gene expression profile from a sample from a first reproductive state and a second gene expression profile from a sample from a second reproductive state,

BEST AVAILABLE COPY

Appl. No. 09/734,752  
Amdt. Dated January 26, 2004  
Preliminary Amendment

wherein the reproductive state of the individual is determined by determining ~~at least one~~  
of the following parameters:

- the menstrual state of the individual;
- ~~if the individual is post partum;~~
- ~~if the individual is or has ever been pregnant;~~
- ~~if the individual is or has ever lactated;~~
- ~~if the individual is nulliparous;~~

comparing the expression profiles from said first and second reproductive states;  
identifying genes that are differentially expressed in said first and second  
reproductive states; and

identifying at least one gene that is differentially expressed between the first and  
second reproductive states as a marker of different reproductive states in women.

Claims 7-9 (canceled)

BEST AVAILABLE COPY